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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,385	08/22/2001	Spencer M. Gold	SMQ-080/P6300	1467

959 7590 06/17/2003

LAHIVE & COCKFIELD  
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BOSTON, MA 02109

EXAMINER

PATEL, PARESH H

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/935,385

Applicant(s)

GOLD ET AL. 

Examiner

Paresh Patel

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 6-29 is/are pending in the application.
- 4a) Of the above claim(s) 19-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/19/2003 and 08/22/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of invention of Group I (Claims 1-18) in Paper No. 3 is acknowledged.

### *Response to Arguments*

Applicant's arguments filed 03/19/2003 have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 1-3 and 6-18 have been considered but are moot in view of the new ground(s) of rejection.

Claims 4 and 5 have been canceled.

#### Drawing:

2:30 pm  
C1  
C2  
In last office action (paper no. 2), Examiner had objected drawings under 37 CFR 1.83(a). Amendment to Figure 2 to identify the input waveform 30 and output waveform 32 are now clear to understand. But, applicant failed to show every feature of the invention as objected (e.g. an interface). Applicant is directing the Examiner to see Fig. 1 and specification on page 6, lines 17-22 for objection to "an interface". An interface is neither shown in Fig. 1 nor defines at lines 17-22 of page 6. Applicant also failed to show the relation between clock cycle and input/output signals in the drawings. For this, applicant relies on the specification and argues that this clock feature of a present invention is conventional and detail illustration with waveform 30 and 32 is not essential for proper understanding of the invention. Examiner disagrees because output

Art Unit: 2829

63 waveform, which carries three important data such as data for indication of sensing operation, measurement of internal temperature and indication of sensor's functionality relies on them. These data are related to input waveform (to start the sensing) and to a clock cycles (to place measurement value of internal temperature into register) as further define at page 8. Also in fig. 1, it is not clear whether nodes 16, 18, 20, 22 and 24 are part of IC 12 or Sensor 14.

Specification:

64 Clarification of first, second and third value of sensor with three data out put of the sensor and comparison as define are important to the invention and they needs to be illustrated in the drawings.

Claim rejection under 35 USC 112:

65 With respect to claim 1, Examiner disagrees with applicant assertion of output signal 32 of fig. 2 as the indicator.

66 With respect to claim 11, applicant argues that claim does not recite a limitation that requires an empirical indication (i.e. x seconds) of how and when sensing is completed. Examiner disagrees, because in the claim it is clear that sensing initiate at the assertion of input signal and asserting an output signal at completion of said sensing step, what is not clear is what determines this completion step of sensing.

Rejection of claim 1-10 under 35 USC 103(a):

With respect to claims 1-3 and 6-10 applicant argues that "Godfrey fails to teach or suggest that the output signal from the thermal sensor includes a response held by the register, an *indicator* that indicates the thermal sensor is sensing the temperature of

Art Unit: 2829

integrated circuit and a value generated by the thermal sensor that indicates the thermal sensor is functioning properly". Examiner disagrees because Godfrey discloses the output signal [output of 320] from the thermal sensor includes a response held by the register [320], an *indicator* [230] that indicates the thermal sensor is sensing the temperature of integrated circuit and a value generated by the thermal sensor [output of 220] that indicates the thermal sensor is functioning properly [inherent to output of 220 and 230]. Also, an input/output interface having an input node and output node is inherent to the Godfrey and further suggested by applicant in the argument. Applicant also argues that Godfrey merely teach or suggest a thermometer ... not a thermal sensor that includes an interface for asserting an output signal that includes a response held by the register. Examiner disagrees because at lines 19-43 of column 4, Godfrey clearly discloses a thermal sensor [220] that includes an interface [inherent to 220 to pass and receive the signals] for asserting an output signal [output of 220 and 320] that includes a response held by the register [320].

With respect to claims 1-3 and 6-18 Applicant again argues that thermometer disclosed by Godfrey fails to include an indication that the sensor is sensing and fails to include a value that indicates whether the sensor is operating properly. Examiner again disagrees because indicator 230 indicates that sensor is sensing and output a value that indicates whether the sensor is operating properly as claimed.

With respect to claims 1-3 and 6-18, Applicant also argues that Examiner fails to provide a motivation or suggestion, other than from Applicants' own invention. Examiner disagrees because, the examiner recognizes that obviousness can only be established

Art Unit: 2829

by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case one of ordinary skill in the art can recognize that if signal reaches at step 560 of fig. 5 means the sensor is working properly (as claimed).

With respect to claims 11-18 applicant argues that Godfrey is concerned with thermometer that includes a temperature sensor and is not concerned with method for a thermal sensor to provide an indication that the thermal sensor is functioning properly. Examiner disagrees because Godfrey discloses structure and method (see abstract) to measure the temperature of integrated circuit as claimed.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the interface and an indicator of claim 1, a first input/output pin and a second input/output pin of claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show first, second and a third value of page 7 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be

Art Unit: 2829

shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, specification does not support function of an indicator as described in claim.

Claims 2-3 and 6-10 are rejected because they depend from rejected claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2829

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 11-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, "at completion of said step of sensing" wherein how and when sensing is completed is not clear.

Claims 12-18 are rejected because they depend from rejected claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godfrey (US 6091255).

Regarding claims 1 and 11-13, Godfrey in fig. 1-6 discloses: a thermal sensor [200, 220] in an integrated circuit comprising:

a register [240, 320] to hold a response of said thermal sensor; and

an Input/Output (I/O) interface having an input node (first and second Input/Output pin) [input and output interface/pin for enable signal and output signal to counter 230 respectively] to receive an input trigger (an input signal) [enable signal from 215] to trigger said thermal sensor to output on an output node of said interface an



Art Unit: 2829

output signal that includes said response held by said register [320], an indicator [230] that indicates said thermal sensor is sensing the temperature of said integrated circuit, and a value (an output signal at completion of sensing and a status signal during sensing) generated by said thermal sensor [lines 41-56 of column 3].

Godfrey merely discloses a value generated by said thermal sensor that indicates said thermal sensor is functioning properly. Godfrey discloses that thermal sensor is generating a value (a signal) and is silent about sensor is functioning properly. It would have been obvious to a person having an ordinary skill in the art at the time the invention was made to understand that when sensor is outputting a signal after triggered by trigger signal, it is proper to understand that the sensor is functioning properly.

Regarding claim 2, Godfrey discloses: the thermal sensor of claim 1, wherein said Input/Output interface comprises a digital Input/Output interface having at least one input node capable of receiving a digital input and at least one output node capable of asserting a digital output [inherent to input/output of 220, because enable signal enables 220 to generate output signal for counter].

Regarding claim 3, Godfrey discloses: the thermal sensor of claim 2, wherein said input node and output node comprises at least two electrical contacts [two contact of 220 where enable signal inputs and outputs to 230] capable of providing an off chip interface inherent to chip 100].

Art Unit: 2829

Regarding claim 6, Godfrey discloses: the thermal sensor of claim 1, wherein said integrated circuit comprises a microprocessor [computer chip 100, lines 9-32 of column 3].

Regarding claim 7, Godfrey discloses: the thermal sensor of claim 1, wherein said integrated circuit comprises a very large scale integration (VLSI) circuit [inherent to transistors of computer chip 100, lines 9-32 of column 3].

Regarding claim 8, Godfrey discloses: the thermal sensor of claim 1, wherein said thermal sensor appends said value that indicates said thermal sensor is functioning properly to said response of said thermal sensor [inherent lines 49-56 of column 3].

Regarding claim 9, Godfrey discloses: the thermal sensor of claim 1, wherein said thermal sensor is a calibrated sensor [lines 66-67 of column 3 and 1-6 of column 4].

Regarding claim 10, Godfrey discloses: the thermal sensor of claim 1, wherein said thermal sensor is an active sensor [200, 220].

Regarding claim 14, Godfrey discloses: the method of claim 11, wherein said output signal comprises a first portion [signal between 310A to 310B] and a second portion [signal between 310B to 310C and lines 19-46 of column 4].

Regarding claim 15, Godfrey discloses: the method of claim 14, wherein said first portion of said output signal comprises a value representative of said temperature of said integrated circuit [inherent to signal from 310A to 310B using 330].

Regarding claim 16, Godfrey discloses: the method of claim 14, wherein said second portion of said output signal comprises a value representative of said indication

Art Unit: 2829

that said thermal sensor is functioning properly [inherent to signal from 310B and 310C using 330].

Regarding claim 17, Godfrey discloses: the method of claim 15, wherein said value representative of said temperature indicates an absolute temperature [a local temperature].

Regarding claim 18, Godfrey discloses: the method of claim 15, wherein said value representative of said temperature indicates a relative temperature [a local temperature].

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

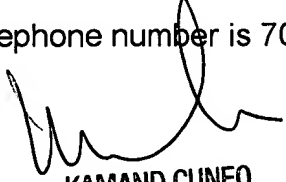
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2829

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



**KAMAND CUNEO**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**

Paresh Patel  
June 9, 2003